

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/KR2003/002897

## A. CLASSIFICATION OF SUBJECT MATTER

**IPC7 H01L 33/00, C09K 11/08**

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H01L C09K H01J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
Korean Patents and applications for inventions, since 1973

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4755715 ( AMERICAN TELEPHONE & TELEGRAPHY COMPANY, AT&T BELL LABORATORIES ) 05 JULY 1988 see the whole documents	1-25
A	US 6066861 ( SIEMENS AKTIENGESELLSCHAFT ) 23 MAY 2000 see the whole documents	1-25
A	US 6614179 B1 ( NICHIA KAGAKU KOGYO KABUSHIKI KAISHA ) 02 SEPTEMBER 2003 see the whole documents	1-25
A	US 6522065 B1 ( GENERAL ELECTRIC COMPANY ) 18 FEBRUARY 2003 see the whole documents	1-25
A	US 4539506 ( INTERNATIONAL BUSINESS MACHINES CORPORATION ) 13 SEPTEMBER 1985 see the whole documents	9-10, 16, 19, 23

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance  
"E" earlier application or patent but published on or after the international filing date  
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)  
"O" document referring to an oral disclosure, use, exhibition or other means  
"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention  
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone  
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art  
"&" document member of the same patent family

Date of the actual completion of the international search

20 SEPTEMBER 2004 (20.09.2004)

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**21 SEPTEMBER 2004 (21.09.2004)**

Name and mailing address of the ISA/KR



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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4755715	05.07.1988	NONE	
US 6066861	23.05.2000	US 6277301 BA US 2001045647 AA US 2001028053 AA US 6245259 BA US 2004084687 AA US 6613247 BA US 6592780 BB US 2004016908 AA	21.08.2001 28.11.2001 11.10.2001 12.06.2001 06.05.2004 02.09.2003 15.07.2003 29.01.2004
US 6614179 B1	02.09.2003	US 2001001207 AA US 2004090180 AA US 6608332 BB US 2004004437 AA	17.05.2001 13.05.2004 19.08.2003 08.01.2004
US 6522065 B1	18.02.2003	EP 1138747 A2 CN 1315484 A JP 2002076446 A2 EP 1138747 A3 TW 522423 B US 2003067265 AA	04.10.2001 03.10.2001 15.03.2002 02.07.2003 01.03.2003 10.04.2003
US 4539506	13.09.1985	NONE	